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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/777,818	02/12/2004	Gopal P. Mathur	03-0666	5706
23418	7590	08/21/2006	EXAMINER	
VEDDER PRICE KAUFMAN & KAMMHOLZ 222 N. LASALLE STREET CHICAGO, IL 60601			COLON SANTANA, EDUARDO	
			ART UNIT	PAPER NUMBER
			2837	

DATE MAILED: 08/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/777,818	<b>Applicant(s)</b> MATHUR, GOPAL P.	
	<b>Examiner</b> Eduardo Colon Santana	<b>Art Unit</b> 2837	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-7,10-21 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 10-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date ____. | 6) <input checked="" type="checkbox"/> Other: <u>Detailed Action</u> .                  |

**DETAILED ACTION**

1. Applicant's supplemental amendments filed on 7/31/2006 have been received and entered in the case.
2. Applicant's amendment with respect to claims 1, 11, and 17 have been considered but are not persuasive.

***Claim Objections***

3. Claim 10 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 10 states that the spacing between the base and the cover is greater than one micrometer, instead of being a value less than  $1 \times 10^{-4}$  meters.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 1-7 and 10-21 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The claim recitation "... the gap between the substantially rigid planar base and the substantially planar flexible cover is less than  $1 \times 10^{-4}$  meters" does not have support in the specification as originally filed. The mere recitation in (par. 16, lines 5-6) of a "...small distance denoted as "h" in figure 1. In most embodiments, "h" is measured in micrometers and typically at least one micrometer", does not provide sufficient evidence that the gap as now being claim is less than (emphasis added)  $1 \times 10^{-4}$  meters. There is no indication or description in the originally filed specification as to why one ordinary skill in the art would be motivated to have a gap of less than  $1 \times 10^{-4}$  meters.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) The invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 2, 4-6, and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Jee U.S. Patent No. 6,638,640.

Referring to claims 1 and 2 Jee discloses a multi-layered plate with damping capacity (see figures 1 and 2, and respective portions of the specification). Jee further discloses an apparatus for reducing acoustic noise, in which a flexible plate (2) acts as a squeeze film damper attached to a vibrating surface (1) having a rigid planar base. The flexible plate is supported above the rigid planar base (1) by a

support structure (3) such that the planar rigid base, the support structure and the flexible plate enclose a volume filled with air, which is a gas. In addition, Jee discloses that the surface to which the flexible plate (2) can be attached or replace with includes the surface of a vehicle component and the like (see Col. 3, lines 30-33).

As to claim 4, Jee depicts a cross sectional view (figure 1 and 2) of a rigid planar base being substantially rectangular.

Referring to claim 5, Jee depicts a squeeze film damper, showing a plurality (only 2 shown) of support structures (3 or 4) about the perimeter of the rigid planar base (1).

As to claim 6, Jee mentions that the attaching means of the squeeze film damper (2) to the surface (1) can be by flex strained processing and welding (see Col. 3, line 34 to Col. 4, line 5).

As to claim 10, Jee discloses that the spacing between the base (1) and the cover (2) is between 0.01mm and 3mm (see Col. 2, lines 32-42).

#### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-5 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable by Yao-Joe Yang et al. 1997 IEEE International Conference, article title "Effect of air dampening on the Dynamics of

Non-Uniform Deformations of Micro-Structures" in view of Jee U.S. Patent No. 6,638,640.

Referring to claims 1, 2, 4 and 8, Yao-Joe Yang et al. discloses flexible mechanical microstructure (figure 1) as a squeeze film damper attached to a vibrating surface (substrate), the squeeze film damper having a substantially rectangular rigid planar base; a substantially planar flexible cover (deformable beam) supported above the substantially rigid base structure (substrate) by a support structure (rigid support), such that the substrate, rigid support and the deformable beam enclose a volume filled with air, which is a gas. However, Yao-Joe et al. does not explicitly describe that the squeeze film damper is coupled to at least one of a vehicle, an aircraft, and a building. On the other hand, Jee discloses multi-layer plate with damping capacity in which the surface to which a flexible plate (2) can be attached or replace with includes the surface of a vehicle component and the like (see Col. 3, lines 30-33).

Since Yao-Joe et al. and Jee are in the same field of endeavor, the purpose disclosed by Jee would have been recognized in the pertinent art of Yao-Joe et al. It would have been obvious to one of ordinary skill in the art at the time of the invention to use a film damper as disclose by Jee in a vehicle component or the like within the teachings of Yao-Joe et al. for the purpose/advantages that with dampening films installed in a different surfaces (i.e. inside vehicle) better sound conservation and/or absorption can be achieve, without degrading sound level/quality.

As to claim 5, Yao-Joe Yang depicts a squeeze film damper, showing a plurality (only 2 shown) of support structures (rigid support) about the perimeter of the rigid planar base (substrate).

Referring to claim 3, Yao-Joe Yang discloses that the substantially rigid planar base (substrate) is substantially rectangular as seen in figure 1, but does not explicitly describe that the substrate can be substantially round. However, it appears that Yao-Joe Yang does not address the require structure or dimensions to have a rigid planar base. It would have been an obvious design choice to one of ordinary skill in the art at the time of the invention to have a rigid planar base of different structures and dimensions (i.e. square, oval, round, etc.), since Applicant has not disclosed that having a rigid planar base that's round solves any stated problem or is for any particular purpose and it appears that the round shape would perform equally well as a rectangular shape planar base.

7. Claims 7, 11, 13 and 15-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yao-Joe and Jee and further in view of Leonetti et al. U.S. Patent No. 6,053,275.

Referring to claims 11, 13 and 15, Yao-Joe and Jee addresses all the similar limitations of claims 1, 2 and 4 above, but does not explicitly describe having an array of squeeze film dampers coupled to the vibrating surface. On the other hand, Leonetti et al. discloses an acoustical absorber array (figure 1) in which a plurality of acoustical absorption elements (20, 22, 24, 26) is attached to a surface (12). Since Jee and Leonetti et al. are in the same field of

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endeavor regarding sound absorption, the purpose disclosed by Leonetti et al. would have been recognized in the pertinent art of Jee. It would have been obvious to one of ordinary skill in the art at the time of the invention to have an array of acoustical elements as taught by Leonetti et al. within the teaching of Yao-Joe and Jee for the purpose/advantages that by having an array of sound absorption dampers a larger area can be cover; and the production and manufacturing inventory would be reduce, cutting back material cost and time.

As to claim 14, Jee discloses that the substantially rigid planar base (1) is substantially rectangular as seen in figure 1, but does not explicitly describe that the substrate can be substantially round. However, it appears that Jee does not address the require structure or dimensions to have a rigid planar base (1). It would have been an obvious design choice to one of ordinary skill in the art at the time of the invention to have a rigid planar base of different structures and dimensions (i.e. square, oval, round, etc.), since Applicant has not disclosed that having a rigid planar base that's round solves any stated problem or is for any particular purpose and it appears that the round shape would perform equally well as a rectangular shape planar base.

Referring to claim 16, Jee depicts a squeeze film damper, showing a plurality (only 2 shown) of support structures (3 or 4) about the perimeter of the rigid planar base (1).



As to claim 7, Leonetti discloses means for attaching the acoustical absorption elements to surface includes mechanical attachment, adhesive or fasteners (see Col. 3, lines 53-54).

Referring to claim 17, the method step is obvious to the product structure of claim 11 above. Further discussion is omitted.

As to claims 18-21, Jee discloses that the surface to which the flexible plate (2) can be attached or replace with includes the surface of a vehicle component and the like (see Col. 3, lines 30-33). The phrase "the like" being interpreter as any interior surface that needs sound absorption.

8. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yao-Joe, Jee and Leonetti et al. as applied to claim 11 above, and further in view of Murakami et al. U.S. Patent Application No. 2002/0108807 A1.

Referring to claim 12, Yao-Joe, Jee and Leonetti et al. address the limitations of claim 11 above, but do not explicitly describe that a foam cover is over the array of acoustical absorption elements. On the other hand, it is well known in the art of sound proofing as stated by Murakami et al. to use a soundproof cover over a specific area (i.e. engine compartment) to improve sound absorption and reduce leakage noise. Even though, Murakami et al. does not employ a particular foam cover above absorption elements. Murakami would be motivated to include further absorption of sound without compromising the weight factor. It would have been obvious to one of ordinary skill in the art at the time of the invention to include a foam cover as

taught by Murakami within the teaching of Jim and Leonetti et al. for the purpose/advantages that extra sound absorption would be recognize independently of the noise vibration reduction the array already performs.

***Response to Arguments***

9. Applicant's arguments with respect to claim 1 as rejected by Yao-Joe et al. have been considered but are moot in view of the new ground(s) of rejection.

With regards to claims 1-7, 10-21 as rejected by Jee, Yao-Joe et al, Leonetti and Murakami, it is believed that the prior art reference still reads on the claims as they have been amended.

Applicant's amendments with regard to claim 1, wherein the apparatus is now being coupled to at least one of a vehicle, an aircraft, and a building is not persuasive and in addition Jee addressed this limitation in the previous office action.

In response to applicant's second point that the Jee reference is nonanalogous art, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, Jee addresses all the limitations regarding the characteristics of a cover plate having damping capabilities and one ordinary skill would find this as being well-known in the art.

Regarding the third point, the combination of Yao-Joe and Jee is detail above in this office action as follows: "It would have been obvious to one of ordinary skill in the art at the time of the invention to use a film damper as disclose by Jee in a vehicle component or the like within the teachings of Yao-Joe et al. for the purpose/advantages that with dampening films installed in a different surfaces (i.e. inside vehicle) better sound conservation and/or absorption can be achieve, without degrading sound level/quality".

**Conclusion**


10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

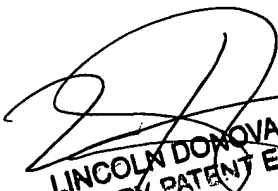
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eduardo Colon Santana whose telephone number is (571) 272-2060. The examiner can normally be reached on Monday thru Thursday 6:30am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lincoln Donovan can be reached on (571) 272-2800 X.37. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval system. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center at 866-217-9197. If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 or 571-272-1000.

  
Eduardo Colon Santana  
Examiner  
Art Unit 2837

ECS  
August 7, 2006

  
LINCOLN DONOVAN  
SUPERVISORY PATENT EXAMINER